

## ABSTRACT

A thin pointing apparatus includes a base associated with a circuit board and pivotally connecting with a rotary disk. The circuit board joins six conductive annular rails, three photo-interrupters and a microprocessor. The rotary disk is provided with four conductive plates corresponding to the annular rails disposed underneath such that the user can press down the conductive plates to touch any two neighboring annular rails for changing the moving direction of the cursor quickly. The rotary disk further provides the photo interruption sets. Two photo-interrupters are disposed under the first photo interruption set for detecting the rotational direction and rotational displacement of the rotary disk. The third photo-interrupter is disposed under the second photo interruption set for detecting the absolute rotational angle of the rotary disk. The pointing apparatus is capable of attaching with a USB to perform the function of USB hub additionally.